SIV Inline Sampling Valves

NPS ½" – 6" · wafer-style or flanged · Class 150 · Class 300, PN16/40 and JIS 10K to order

swissfluid USA

An inline valve for safe and representative sampling of corrosive, aggressive or toxic media from pipelines, pressurized or under vacuum, without interrupting the process. Wafer-style or flanged body in CF-8M stainless, unlined or PFA-lined, dead-space-free with a very short outlet path: the spindle lifts out of a tapered seat to fill a lab bottle, then closes and the valve is dead-space-free again. Operated by handwheel, spring-to-close handwheel or spring-return deadman lever.



Design

Sizes	NPS ½" – 6" (DN15 – DN150). Flanged (SIVF) or wafer-style (SIVW); wafer bodies are combined for DIN/ANSI.
Body	Stainless steel casting 1.4408 (CF-8M), unlined or lined with PFA or PFA-AS (conductive), lining wall thickness min. 0.12 in (3 mm). SS316L body to order.
Spindle	SS316L (1.4404); PFA or PFA-AS encapsulated on lined valves, solid SS316L or alloy C to order. Stroke adjustment for precise small sample volumes.
Spindle seal	Maintenance-free stuffing box (Sb) or bellows seal (Bs) with replaceable grooved spindle gasket; PTFE/glass/MoS2 packing on lined valves. Bellows in SS316Ti (1.4571) with graphite gasket.
Bottle adapter	PTFE-R glass-fiber-reinforced, horizontal or vertical, with vent connection, PVDF elbow and FEP-encapsulated O-ring; PTFE-T-AS or SS316L to order. Bottle threads GL45 or GL32 to DIN 168-1.
Connections	Flanges to ASME B16.5 Class 150; ANSI 300 lbs, PN16/40 and JIS 10K to order; face-to-face to ASME B16.10; ½", ¾" and 1" Swissfluid lengths. Groove, clamp or butt-welding ends to order.
Pressure	0.01 psia to 232 psi, unlined or PFA-lined, and with the collector; 580 psi with unlined body, bellows seal and spring-return handwheel; 145 psi with the piston injector. Derated above 212 °F (100 °C) (the 580 psi build above 248 °F [120 °C]). Pressure-temperature chart on the Swissfluid sheet.
Temperature	−40 °F to +400 °F (−40 °C to +204 °C) unlined; PFA-lined to +356 °F (+180 °C), per the Swissfluid pressure-temperature chart.
Compliance	Dead-space-free design conforming to TA-Luft; testing to EN 12266-1 leakage rate A / API 598; marking to EN 19; certificates to EN 10204 3.1/2.2/2.1; conformity to the European Pressure Equipment Directive (PED).

Source: Swissfluid USA PM 83 us 2018-9.

Main features

- Dead-space-free wafer-style or flanged body, extremely short outlet path for a representative sample
- Handwheel, spring-to-close handwheel (top or lateral), or spring-return deadman lever (fail-safe close)
- Installation in any position, horizontal or vertical pipelines
- PFA or PFA-AS (conductive) linings and spindle encapsulations
- Spindle stroke adjustment for precise small sample volumes
- Maintenance-free stuffing box or bellows seal, replaceable spindle gasket
- Flanges to ASME B16.5 Class 150; DIN to order
- Modular: bottle, collector or piston-injector sampling

SIV Inline Sampling Valves

Versions, options, ordering code

Versions

SIV with bottle The standard valve samples directly into a laboratory bottle on a PTFE-R adapter with GL45 or GL32 thread to DIN 168-1. Turning the handwheel counter-clockwise, or lifting the deadman lever, raises the spindle out of its tapered seat and the sample flows into the bottle while trapped air escapes through the vent connection; turning back pushes the spindle into the seat and the valve is dead-space-free again. ½" – 6", 0.01 psia to 232 psi (580 psi with unlined body, bellows seal and spring-return handwheel), −40 °F to +400 °F (−40 °C to +204 °C) unlined, PFA-lined to +356 °F (+180 °C).

SIV with collector (SC) For critical and heavy-duty applications a stainless collector replaces the bottle adapter: wafer-style valve in 1.4408/1.4404 with deadman lever, collector in SS316L with 1.4408 handwheel, stainless needle valve and a safety plug in PP or PTFE-R. Standard sample volume approx. 100 ml (3.4 oz), with outlet nozzle/safety cap and lab holder available. 1" – 6", 0.01 psia to 232 psi, −40 °F to +400 °F (−40 °C to +204 °C); special versions on request.

SIV with piston injector (PI) A piston injector (syringe) in place of the bottle adapter: flanged valve in CF-8M/1.4404 or PFA-lined with spring-return lateral handwheel (deadman lever optional), and a stainless, PFA-lined syringe unit with borosilicate glass cylinder. Standard sample volume 100 ml (3.4 oz). ½" – 6", 0.01 psia to 145 psi, −40 °F to +400 °F (−40 °C to +204 °C) (PFA-lined to +356 °F [+180 °C]); other materials, sizes and volumes on request.

Options

- **Heating jacket** Body with heating jacket
- **Needle adapter** For lab bottle with septum
- **Bottle adapter** PTFE-R, PTFE-T-AS or SS316L; horizontal or vertical; GL45 or GL32 thread
- **Bottle support** Adjustable
- **Safety cabinet** With inspection windows
- **Flange versions** Groove, ANSI 300 lbs, PN16/40, clamp or butt-welding ends
- **Vertical adapter, sealing plug, activated carbon filter**
- **Metal safety basket** With spring-loaded plate
- **Collector or piston injector** In place of the standard bottle adapter; the sheet designates the versions SC and PI, which are stated in the order text.
- **Actuation** Pneumatic linear-stroke actuator, single-acting fail-close

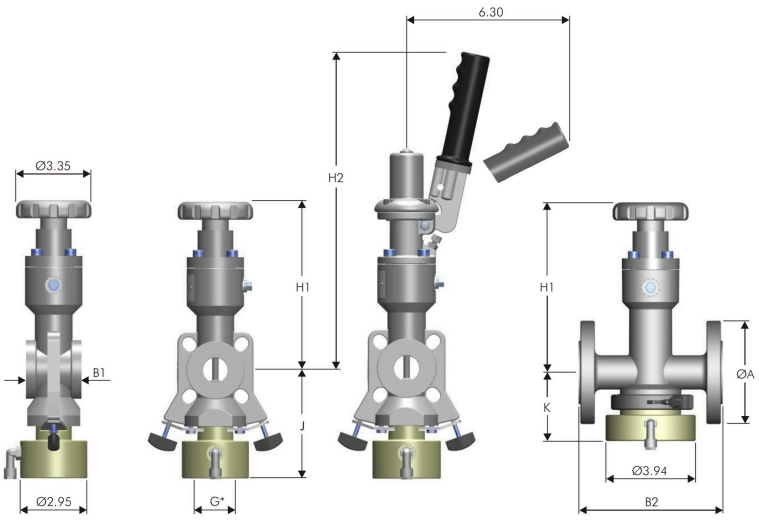
Ordering code

Build a code from left to right; a standard valve is **SIVF · 2" · ANSI150# · G15 · A85 · U85 · Sb · HW · H95 · 45**. Some selections require or exclude others; we check every code before it goes to the factory.

Product	**SIVF** flanged · **SIVW** wafer (bodies combined for DIN/ANSI)
Nom. size	**½" – 6"** NPS · **DN15 – 150** DN
Flange conn.	**ANSI150#** ASME Class 150 · **ANSI300#** ASME Class 300 · **PN16** PN16 · **JIS 10K** JIS 10K
Body	**G15** CF-8M · **G34** SS316L
Lining body	**A85** PFA · **A86** PFA-AS conductive
Spindle	**U85** PFA · **U86** PFA-AS · **S34** SS316L · **S44** alloy C
Spindle sealing	**Sb** stuffing box · **Bs** bellows seal
Actuation	**HW** handwheel · **HS-S** handwheel, spring, lateral · **DL** deadman lever
Bottle adapter	**H95** PTFE-R horizontal · **H97** PTFE-T-AS horizontal · **H32** SS316L horizontal · **V95** PTFE-R vertical · **V97** PTFE-T-AS vertical · **V32** SS316L vertical
Bottle thread	**45** GL45 · **32** GL32
Accessories (tick)	body with heating jacket · needle adapter · bottle support, adjustable · safety cabinet · vertical adapter

SIV Inline Sampling Valves

Dimensions, construction and service



SIV with bottle · dimensions, inches

Size	B1 wafer	B2 flanged	Ø A flange	H1	H2	Wafer lbs	Flanged lbs
½"	2.44	6.30*	3.74‡	7.64	13.90	9.02	10.78
¾"	2.44	6.30*	3.86	7.64	13.90	9.02	10.78
1"	2.44	6.50*	4.25	7.40	13.66	9.02	13.38
1½"	2.44	6.50	5.00	7.72	13.98	10.34	16.92
2"	2.44	7.00	6.00	7.95	14.21	11.88	19.48
3"	2.44	8.00	7.50	9.02	15.28	12.98	29.92
4"	2.44	9.00	9.00	9.69	15.94	31.24	37.28
6"	2.44	10.50	11.00	10.39	16.89	45.10	54.70

Face-to-face to ASME B16.10 per the sheet; * ½", ¾" and 1" lengths (6.30, 6.30, 6.50) are not B16.10 lengths; confirm the installation length when ordering. Flanges to ASME B16.5 Class 150. ‡ DIN-size flange diameter, as Swissfluid's sheet gives it. Weights approximate, with handwheel. G*: bottle thread GL45 or GL32 to DIN 168-1. Source: Swissfluid USA PM 83 us 2018-9.

Note. The Swissfluid sheet labels the collector and syringe versions SC and PI.

Data: Swissfluid USA PM 83 us 2018-9.

Construction. Wafer or flanged body in CF-8M, unlined or PFA-lined; SS316L spindle, PFA-encapsulated on lined valves; grooved spindle seal with PTFE-T seal rings or SS316Ti bellows; SS316L lantern, pressure ring and rotating stop; Belleville spring in spring steel; FPM O-ring and X-ring; PTFE-R bottle adapter with FEP/FPM O-ring and PVDF vent elbow; SS304 clamp or wing-nut clamps; CF-8M/SS316L handwheel or deadman-lever unit.

Typical service. Safe, representative sampling of corrosive, aggressive or toxic media from pipelines under pressure or vacuum, without process interruption; collector or piston injector versions for critical and heavy-duty applications.

SIV Inline Sampling Valves

Dimensions

SIV with collector (SC) · inches

Size	H2	L	M	Weight lbs
1"	13.66	2.48	10.04	16.72
1½"	13.98	2.80	10.35	18.04
2"	14.21	3.03	10.59	19.58
3"	15.28	3.58	11.14	21.12
4"	15.94	4.06	11.61	39.16
6"	16.89	5.00	12.56	52.80

Wafer-style valve with collector, complete; approximate weights.
Source: Swissfluid USA PM 83 us 2018-9.

SIV with piston injector (PI) · inches

Size	B face-to-face	Ø A flange	H1	H2	K	Weight lbs
½"	6.30*	3.74‡	9.69	13.90	1.06	17.60
¾"	6.30*	4.13‡	9.69	13.90	1.06	17.60
1"	6.50*	4.25	9.45	13.66	1.30	20.24
1½"	6.50	5.00	9.72	13.98	1.57	23.10
2"	7.00	6.00	10.00	14.21	1.85	25.30
3"	8.00	7.50	10.55	15.28	2.40	33.00
4"	9.00	9.00	11.02	15.94	2.87	46.20
6"	10.50	11.00	11.93	16.89	3.78	59.40

* and ‡ as above. Source: Swissfluid USA PM 83 us 2018-9; 6" row per the metric edition.

SIV with spring-to-close handwheel (HS-S) · inches

Size	B face-to-face	Ø A flange	H1	K	Flanged lbs	Wafer lbs
½"	6.30*	3.74‡	9.69	2.76	14.96	11.44
¾"	6.30*	3.86	9.69	2.76	15.18	11.44
1"	6.50*	4.25	9.45	2.99	17.38	11.44
1½"	6.50	5.00	9.72	3.27	22.22	12.76
2"	7.00	6.00	10.00	3.50	23.32	14.30
3"	8.00	7.50	10.55	4.06	38.06	15.40
4"	9.00	9.00	11.02	4.57	46.42	33.66
6"	10.50	11.00	11.93	5.28	55.88	47.52

* and ‡ as above. Source: Swissfluid USA PM 83 us 2018-9.

SIV Inline Sampling Valves

Ordering from LinedPipe.Com

Size, series, lining, class and quantity are enough to start. For a quotation send the service conditions (media, concentration, temperature, pressure, flow), the end connections and, for a valve, the actuation you need; we will confirm the ordering code, the installation dimensions and a delivery time.

Request a quote

(251) 625-4949 · info@linedpipe.com · linedpipe.com/contact/
(the online quote form takes valves line by line and attachments).

What to tell us

- Series and size, flange class, and full or reduced port where the series offers both
- Lining, and the ball, disc, glass, seat and elastomer materials where the series has them
- Body material: carbon steel or stainless, as the series offers
- For a valve, the topworks: bare stem, lever, gearbox, pneumatic or electric actuator, fail position, accessories
- Options from the series' ordering code, such as a conductive lining or special bolting
- Certificates: EN 10204 3.1 material certificates and test reports on request

Dimensions

Face-to-face lengths in our valve catalog are stated against ASME B16.10, MSS SP-88, EN 558-1 or EN 12982, as the note under each table says; where a table mixes standards, lengths marked * are not to the US standard. Confirm the installation length on the order acknowledgement before cutting pipe.

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